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ABSTRACT

The primary purpose of this study was to investigate the relationship between Metropolitan Readiness Test (MRT) scores in kindergarten (MRTK) and grade one (MRT1) with the reading scores of the Canadian Tests of Basic Skills (CTBS) at the end of grades one (CTBSR1) and two (CTBSR2). A secondary purpose of the study was to determine whether the correlation between the MRT scores and the CTBS reading scores in grades one and two differed significantly when the MRT was administered at the beginning of kindergarten and when it was administered at the beginning of grade one. The population of the study consisted of grade two students in 51 schools in the Regina School Division. A random sample of 261 students was selected. Findings indicate that students who score high on the MRT are more apt to achieve success in reading and overall success in grades one and two than those who score low. These findings were also true for MRT subtests. The MRTK Alphabet, MRT1 Alphabet, MRTK Numbers, MRT1 Matching, and MRT1 Listening were the most accurate predictors of students' reading achievement in grades one and two. It is concluded that kindergarten and grade one teachers should identify specific areas of weakness in those children with low MRT scores.
(Author/RH)

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AN INVESTIGATION OF THE RELATIONSHIP BETWEEN READINESS TEST SCORES FOR KINDERGARTEN CHILDREN AND ACHIEVEMENT SCORES OBTAINED AT THE END OF GRADES ONE AND TWO

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S.S.T.A. Research Centre Report No. 62

A report with recommendations prepared under the auspices of the Saskatchewan School Trustees Association Research Centre

July, 1979

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The relationship between readiness and new learning so permeates every stage in the lives of individuals that it is taken for granted without any conscious thought in the day-to-day routine of our lives. Psychologists have demonstrated that learning is based on past experiences and can be identified in stages, with each new stage being based on a preceding one. Everyday action of teachers and parents confirms the widespread exceptance of this relationship as they delay further instruction of children until previous instruction has been mastered.

At the beginning of this century all children began school at the age of six. The beginning of school and the beginning of reading were simultaneous. In the 1920's researchers noted that surveys were consistently indicating that large numbers of children were having to repeat grade one because of their inability to read at satisfactory levels.

This led to the use of intelligence tests and mental age tests to predict readiness for reading, with a period of reading readiness training given to those children who scored low. Considerable controversy developed over the use of intelligence quotients and mental age as predictors, with a number of factors being identified as influencing the ability to learn to read. This in turn led to the development of reading readiness tests during the 1930's designed to measure those factors which could be objectively

tested; so that readiness tests could be used to predict future reading achievement. There has been continued revision and improvement of the tests since then.

Among the readiness tests developed in the 1930's was the Metropolitan Readiness Test (MRT) by Hildreth and Griffiths (1932). The 1969 revision was in use by the Regina Board of Education at the time of this study.

The 1930's were followed by a period of development of achievement tests designed to enable educators to measure reading and overall performance. One such test was the Canadian Tests of Basic Skills (CTBS), appropriately modified from the Iowa Tests of Basic Skills (1956) to suit Canadian requirements, and currently in use by the Regina Board of Education.

The primary purpose of this study was to investigate the relationship between the MRT scores in kindergarten (MRTK) and grade one (MRT1) with the reading scores of the CTBS at the end of grades one (CTBSR1) and two (CTBSR2). A secondary purpose of the study was to determine whether the correlation between the MRT scores and the CTBS reading scores in grades one and two differed significantly when the MRT was administered at the beginning of kindergarten and when it was administered at the beginning of grade one.

The population of the study consisted of grade two students in 51 schools in the Regina School Division. From

this population a random sampling of 261 students were selected for whom both the MRT and CTBS test scores were available.

The Pearson product-moment correlation coefficient was used to investigate the correlation between MRT and CTBS scores. Additional analysis was carried out to determine which of the MRT subtests were the best predictors of reading achievement in grades one and two using step-wise multiple regression.

The findings of the study were as follows:

1. The relationship between each of the total scores of the Metropolitan Readiness Test - beginning kindergarten (MRTK) and the Metropolitan Readiness Test - beginning grade one (MRT1) and the scores of the Canadian Test of Basic Skills - end of grade one (CTBSR1) and the Canadian Test of Basic Skills - end of grade two (CTBSR2).

The results of the study indicated a significant positive relationship between the MRTK and MRT1 and the scores of the reading subtests of the CTBS at the end of grades one and two. This finding seemed to indicate that students who score high on the MRT are more apt to achieve success in reading than their counterparts who score low on the MRT.

There was no significant difference in the relationship between the MRT when administered at the beginning of kindergarten than when administered at the beginning of grade one. Similarly there was no significant difference in the relationship between the MRT and reading achievement at the end of grade one and at the end of grade two.

On the basis of these findings, it seemed reasonable to conclude that students in the sample who scored well on the MRT either in kindergarten or in grade one, were more apt to achieve reading success in both grades one and two than those who obtained low scores in either of the MRT tests.

2. The relationship between each of the Metropolitan Readiness Test - beginning kindergarten (MRTK) and the Metropolitan Readiness Test - beginning grade one (MRT1) and the total scores of the Canadian Test of Basic Skills - end of grade one (CTBR1) and the Canadian Test of Basic Skills - end of grade two (CTBR2).

The results of the study indicated a significant positive relationship between students' scores on the MRT both when administered at the beginning of kindergarten and when administered at the beginning of grade one and the total scores of the CTBS. This finding seemed to indicate that students who score high on the MRT are more apt to achieve overall success in grades one and two than their counterparts who score low on the MRT.

There was no significant difference in the relationship between the MRT when administered at the beginning of kindergarten and when administered at the beginning of grade one. Similarly there was no significant difference in the relationship between the MRT and total achievement scores at the end of grades one and two.

It seemed reasonable to conclude from these findings that students in the sample who scored well on the MRT either in kindergarten or in grade one, were more apt to

achieve overall success in both grades one and two than those who obtained low scores in either of the MRT tests. The results of the study also showed that there was a stronger positive relationship between the MRT and the total scores of the CTBS in both grades one and two than with reading scores alone.

3. The relationship between each of the subtests of the Metropolitan Readiness Test - beginning kindergarten (MRTK) and the Metropolitan Readiness Test - beginning grade one (MRT1) and the scores of the Canadian Test of Basic Skills - end of grade one (CTBSR1) and the Canadian Test of Basic Skills - end of grade two (CTBSR2).

The results of the study indicated a significant positive relationship between students' scores on every one of the subtests on both the MRTK and MRT1 and the scores of the reading subtests of the CTBS. This finding appears to indicate that students who score high on any of the subtests of the MRT are more apt to achieve success in reading than their counterparts who score low on the subtests of the MRT.

The highest correlations between reading achievement and the various MRT subtests were found to be in the Alphabet and Numbers subtests in both kindergarten and grade one. This finding implies that those students in the sample who developed numerical concepts and familiarity with the alphabet were generally more likely to obtain higher reading scores than their counterparts.

4. The relationship between each of the subtests of the Metropolitan Readiness Test - beginning kindergarten

(MRTK) and the Metropolitan Readiness Test - beginning grade one (MRT1) and the total scores of the Canadian Test of Basic Skills - end of grade one (CTBR1) and the Canadian Test of Basic Skills - end of grade two (CTBR2).

The results of the study indicated a significant positive relationship between students' scores on every one of the subtests on both the MRTK and MRT1 and the total scores of the CTBS. This finding indicates that students who score high on any of the subtests of the MRT are more apt to achieve success in overall performance than their counterparts who score low on the MRT.

Among the subtests, the Numbers and Alphabet subtests produced the highest correlation with total achievement in both grades one and two. The reported Pearson product-moment correlations for these two subtests ranged from .496 to .600. On the basis of these findings, it is reasonable to conclude that those students in the sample who had knowledge of numerical concepts and the alphabet were generally more likely to obtain higher scores in overall achievement in grades one and two than their counterparts who scored low in these two subtests.

5. The prediction of reading achievement in grades one and two.

The Pearson correlations indicated that both total scores (MRTK and MRT1) and all of the twelve subtests of the MRTK and MRT1 had significant positive relationships with reading achievement in both grades one and two as measured by the CTBS reading subtests.

Among the predictor variables, MRTK Alphabet subtests accounted for the greatest amount of variance in the CTBSR1 (34 percent), and CTBSR2 (32.1 percent). While not in the same order the same subtests contributed the most to the variance in the CTBSR1 and CTBSR2.

It appeared from the above findings that the MRTK Alphabet, MRT1 Alphabet, MRTK Numbers, MRT1 Matching, and MRT1 Listening were the most accurate predictors of students' reading achievement in grades one and two.

Implications

Implications and recommendations of this investigation pertaining to readiness tests are noted below.

1. This study showed an overall significant positive relationship between scores on the MRT and reading achievement in grades one and two. The findings imply that those students who scored high on the MRT were more likely to achieve success in reading in grades one and two than those who scored low. In view of these findings it seems reasonable to encourage teachers to distinguish between those children who can safely move into regular reading instruction and those who would benefit from further informal readiness activities.

2. This study showed that all of the subtests of the MRT had a significant positive relationship with reading achievement in grades one and two which indicates that each of the subtests measured factors influencing success

in reading achievement. Those students who scored high on any of the subtests were more apt to achieve success in reading in grades one and two than those who scored low. The step-wise multiple regression analysis indicated that those children who scored high on more than one of the subtests were more apt to achieve success in reading than those who scored low on one or more of the subtests. This being the case, the reading achievement of a student in grades one and two may be affected by such factors as lack of numerical concepts and unfamiliarity with the alphabet.

In view of the findings, it is reasonable to encourage kindergarten and grade one teachers to identify specific areas of weakness in those children with low MRT scores. To enable this type of diagnosis, teachers should become familiar with factors being measured by the various tests used so that they can prepare activities to meet the needs of those children who require further readiness activities.

3. The study found that there is no statistically significant difference between the relationship of the MRT and the CTBS when the MRT is administered at the beginning of grade one. It is therefore suggested that school systems which offer a kindergarten program administer the MRT at the beginning of kindergarten. This suggestion is made because:

a) Learning problems identified at an early stage of development can be treated more effectively, and

b) Early identification enables a teacher to set realistic goals for the child. A teacher who is unaware of a child's specific difficulties may set unrealistic goals for that child based only on his chronological age. If a child experiences early failure other research indicates a poor self-concept may develop as a result of inability to meet goals set by the teacher (Ogletree, 1974).